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COLOMBO PLAN STAFF COLLEGE FOR TECHNICIAN EDUCATION
for Human Resources Development in Asia and the Pacific Region



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for Technical and Vocational
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Conference Report

TVET FOR SUSTAINABLE DEVELOPMENT - OPPORTUNITIES AND CHALLENGES -

*An International Experts Meeting organised by the
UNESCO-UNEVOC International Centre for Technical
and Vocational Education and Training (TVET), Bonn,
Germany*

RMIT International University Vietnam
Ho Chi Minh City, Vietnam
2-5 July 2006

BACKGROUND AND OBJECTIVES

Background

As a major contribution to the United Nations Decade of Education for Sustainable Development, the UNESCO International Centre for Technical and Vocational Education and Training (UNESCO-UNEVOC) hosted an International Experts' Meeting in Ho Chi Minh City, Vietnam, to synthesise and extend current examples of international best practice in reorienting TVET for sustainable development.

As such, the Meeting is a follow-up to an International Experts Meeting on Technical and Vocational Education and Training, entitled Learning for Work, Citizenship and Sustainability held in Bonn Germany (25 to 28 October 2004) and convened UNESCO-UNEVOC and UNESCO Headquarters Paris, in close partnership with the German Federal Ministry of Education and Research (BMBF). This meeting concluded with the unanimous acceptance of the Bonn Declaration on Learning for Work, Citizenship and Sustainability, which argues that:

. . . since education is considered the key to effective development strategies, technical and vocational education and training (TVET) must be the master key that can alleviate poverty, promote peace, conserve the environment, improve the quality of life for all and help achieve sustainable development.

This is in line with major UNESCO priorities such as Education for All, poverty alleviation, meeting the needs of youth, woman and girls and the disadvantaged, equity and sustainable development. These are key themes in the 2005-2014 UN Decade of Education for Sustainable Development.

As a result, The Bonn Declaration called for

. . . approaches to development that harmonize economic prosperity, environmental conservation and social well-being. We therefore call for responses to globalization that humanize rather than marginalize, and for applications of information and communication technology that narrow the digital divide

However, while strategies for achieving this goal are not widespread, a range of international experiences is beginning to suggest ways forward. These initiatives include national TVET policy reforms, reoriented curricula, sustainable campus management programs, and examples of innovative approaches to integrating learning in TVET with on-the-job training and in community service. Thus, the relevance and implications of education for sustainable development for the workforce development have been explored in a number of significant UNESCO-UNEVOC activities. These include:

- The focus of the Seoul+5 conference in October 2004 on Learning for Work, Citizenship and Sustainability, preparation of a Discussion Paper and Conference Report on this theme

- The widespread dissemination of the Bonn Declaration on Learning for Work, Citizenship and Sustainability
- The preparation of a ten-year Action Plan on TVET and sustainable development to guide UNESCO in the development of its Implementation Scheme for the UN Decade of Education for Sustainable Development
- Activities in 2005 to put the Action Plan into operation, including the preparation of a special issue of UNESCO's journal Prospects on TVET and sustainable development and convening the first two of a series of regional dissemination and capacity building conferences on the outcomes of the Seoul+5 conference in October 2004 on Learning for Work, Citizenship and Sustainability in the Asia-Pacific region (in partnership with the Colombo Plan Staff College for Technician Education) and the Office of the Vocational Education Commission of Thailand) and in Oman for the Arab States.

Objectives

Building upon these initiatives, and as a major contribution to the United Nations Decade of Education for Sustainable Development, UNESCO=UNEVOC hosted an International Experts' Meeting in Ho Chi Minh City, Vietnam, to synthesise and extend current examples of international best practice in reorienting TVET for sustainable development and disseminate strategies for addressing the questions, issues and problems that arise in developing policies and programmes based upon a reorientation of TVET for sustainable development.

Specific objectives were:

- To review the nature, purpose and scope of development and sustainable development and the relevance of the changing international discourse for TVET
- To analyse invited case studies of best practice in reorienting TVET for sustainable development.
- To analyse the opportunities for, and challenges to, reorienting TVET for sustainable development.
- To identify strategies for building capacity in reorienting TVET for sustainable development.

Preparation for the Meeting involved:

- The identification and analysis of major issues, opportunities and challenges pertaining to the integration of TVET into sustainable development around the world, as well as leading international case studies on the integration of TVET into sustainable development.
- Invitations to leading thinkers around the world to write papers on these points
- Invitations to leading international TVET specialists to join these authors in a workshop process which critically analyses these papers.

Following the Meeting, all papers are being reviewed by independent assessors and the authors will then be invited to revise their papers in the light of these comments and discussions at the conference for publication in a cutting-edge book on key issues, concerns and prospects concerning TVET for sustainable development. The book, to be edited by RMIT University, UNESCO-UNEVOC and CPSC will be published in the UNESCO-UNEVOC Book Series on Technical and Vocational Education and Training:

Issues, Concerns and Prospects (Series Editors: Rupert Maclean and David Wilson) by the international publisher Springer, initially in English, with possibilities for other UNESCO languages (eg Chinese, French and Russian) to be vigorously explored.

The workshop report and book will be addressed to an international audience of policy makers, researchers and practitioners, especially within UNESCO member states and UNEVOC Centres, and will be widely distributed world-wide to UN partner agencies, international multi and bi-lateral funding agencies, Non-Government Organisations and other relevant individuals and organisations with an interest in TVET and in sustainable development. This wide scope will ensure that the important matter of TVET for sustainable development becomes a key part of the agenda to be followed during the Decade on Education for Sustainable Development.

REPORT OF THE MEETING

Sponsoring Partners

UNESCO-UNEVOC in Bonn convened the meeting in partnership with RMIT University (Australia), RMIT International University (Vietnam) and the Colombo Plan Staff College for Technician Education (CPSC) (Manila).

Other sponsors included: the Korean Research Institute on Vocational and Technical Education (KRIVET), the Australian National Centre for Vocational Education Research (NCVER), AusAID, the Norwegian Institute for Water Research (NIVA), NEPAS-IFE (Norway) and InWEnt (Germany).

Participants

A total of 66 invited delegates from 23 countries attended the meeting. They included: experienced senior officers in national ministries of labour, employment, industry, education and/or training, directors of national TVET systems and UNEVOC Centres, senior educators in TVET institutions, TVET teacher educators and researchers.

Annex 1 presents the attendance list.

Opening Session

The Opening Session of the Conference was chaired by Professor John Fien (RMIT University, Australia) who introduced the first session by welcoming delegates and introducing the members of the Organising Committee and the heads of the delegations of sponsoring partners.

Dr Vinh (Dept of Education, Ministry of Education and Training, Hanoi and Vietnam) welcomed delegates to Vietnam and explained the nature and priorities of TVET in Vietnam and the contributions of the Vietnam UNEVOC centre to developments and innovations in TVET in the host country.

Dr Andrew Scown (Vice-President, RMIT) welcomed participants to Ho Chi Minh City and outlined the role of RMIT in promoting educational for sustainable development in Vietnam. He outlined the four pillars sustainable development and their significance for workforce development.

Dr Rupert Maclean (Director, UNESCO-UNEVOC, Bonn) welcomed delegates to the conference and launched the TVET focus of the UNESCO Decade for Sustainable Development for Technical and Vocational Education. He outlined the link ages between TVET, education for sustainable development and the UNESCO program Education for All and their relationships with the Millennium Development Goals. He focused on the importance of skills development and workplace education to make people more employable and effective in both the rural and industrial sectors. Dr Maclean argued that TVET is the 'master key' to sustainable development and the significance of new

paradigms of education across both the developed and developing world.

To formally open the conference a candle lighting ceremony was held. Dr Delmonte introduced the ceremony by introducing conference experts Rupert Maclean, Dr Park, Dr Kim , Tom Carmel, Dr Harry Stolte, Dr Kim Tran, Dr Thor Henning, Dr Andrew Scown, Dr Annette Gough, Dr Vinh and Professor John Fien (RMIT). Dr Maclean and Dr Park lit the candle and declared the conference open.

Structure of the Meeting

The Meeting involved the presentation of individual papers and in the afternoon small group discussions with paper presenters followed by a plenary in which group reports were submitted. The plenary sessions were chaired by Professor Annette Gough (RMIT, Melbourne).

These documents and the text of the report of the Rapporteur-General are presented on the conference CD-ROM attached to this report.

The full conference programme is presented in Annex 1.

Report of the Meeting

Following the presentation of papers, group discussions were convened to allow for the critical review of the papers to ensure their relevance and usefulness to TVET systems, administrators, institutions and practitioners, especially in developing countries, countries in transition and those in a post-conflict situation. Seventeen different discussion groups, organised around the three sub-themes of the conference, met in this way across the three days of the conference.

Theme 1: *New Thinking on Development*

Paper presenters:

- Man-Gon Park, CPSC, Philippines
- John Fien, RMIT University, Australia
- Harry Stolte, InWEnt, Germany

The discussions of each group focused on a number of issues relating to new approaches to TVET developments. As part of the discussions, each group stressed the meaning of the term “sustainability” as the common starting point. It was argued that “sustainability” has become a buzzword. Therefore there is clearly the need to link the abstract meaning of “sustainability” with clear concepts to put it into practise. It was expressed that the concept illustrated and examples given in the paper by Mr. Harry Stolte could well serve as an example of best practise for sustainability in TVET.

As sustainability and TVET were discussed, the importance of TVET teachers was highlighted. It has been made clear by many participants that sustainable TVET needs well-trained TVET teachers. Thus each group suggested the paper presenters that the training and model of TVET teachers needs special attention. Participants who discussed the paper of Dr. Man-Gon Park commented on aging population and useful approaches on how to utilize the competencies of aging population to remain employable.

Theme 2: *The TVET Response 1: Towards Economic and Environmental Sustainability*

Paper presenters:

- Suresh Dhameja, CPSC, Philippines
- Tariq Mahmood, NISTE, Pakistan
- Shyamal Majumdar, NITTTR, India
- Shirley Ali Khan, Bulmer Foundation, UK
- Stephen McKenzie, University of South Australia, Australia.
- Young-Hyun Lee, KRIVET, Korea.
- Johanna Lasonen, University of Jyväskylä, Finland.
- Jagmohan Singh Rajput, NCERT, India.

Participants in each group drew on the perspectives of paper presenters to address the questions: what courses, pedagogical techniques, and other strategies can improve TVET to response towards economic and environmental sustainability. A number of suggestions centered on the linkages between entrepreneurship and sustainable development and stressed that it did not come across clearly in the papers, which are related to entrepreneurship. It was also emphasized that ecological identity and sense of environment should be developed in the TVET system.

The discussion groups did not pose the specific critical analysis on each paper under discussion. Instead, the participants from different countries: Philippines, Thailand, US, China, Pakistan, India and Philippines discussed what is the role of TVET schools and educators, role of governments and the nature of the funding agencies in their respective countries. On the basis of these background analysis and discussions, Prof Tariq requested those with information, references and case studies to assist him substantiate his paper. All agreed that expanding on the section on Global Entrepreneurship Monitor – flesh out the details, e.g. what knowledge and skills are needed, what are the conditions for entrepreneurship to grow.

As presented in the Mr. Stephen McKenzie's paper, the participants discussed on the Economic and Environmental Disciplines of sustainable development, and further elaborated that there is a need to better define, operationalize and provide measurements of Social and Cultural Sustainability. With regard to this paper, the participants raised some critical issues: what the relationship of sustainable development to market-driven and centrally planned economic systems is, how we can re-orient TVET to include sustainable development in a market-driven system as opposed to one where central planning of one sort or another is more prevalent. Mr. Stephen McKenzie requested the participants to send examples or case studies of local social/cultural sustainability programs that can enhance the quality of his paper.

Dr. Young-Hyun Lee's paper presented legislative and formal programs in Korea addressing issues of gender equity and some evidence of progress in some areas of gender workplace issues and relations. The participants suggested that the paper would benefit by acknowledging where sustainable development is all its dimensions in addition to gender issues, which addresses in Korean programs. On the basis of this situation analysis, other suggestion included that addressing various strategies applicable to corporate cultural change would be more effective rather than presenting

these cultural issues through governmental legislation and regulation. Dr. Lee requested the participants to send examples or models of workplace cultural change strategies. Regarding the paper of Johanna Lasonen, the participants initially discussed about the definition of intercultural, cross-cultural and multicultural education to clarify the education environment for the sustainable development. To emphasize the importance of intercultural education for the sustainable development, the participants analyzed different basic views on intercultural education environment. Group discussed the possible solutions of the advent of cross-cultural problems, and recognized that any problem can be analyzed from the origin of cause with global labor market changes. All members agreed that this paper contributes for sustainable development in TVET with understanding of Intercultural Education.

Several issues were raised during the discussion for the Mr. Jagmohan Singh Rajput's paper and the following suggestions were given for improvement of the paper:

- Relation and linkages to sustainable development should emphasize in the paper.
- Women participation and involvement should be specified for TVET in India for sustain ability.
- In the paper ICT and Distance Learning concept should be separately touch upon.

Consecutively, the participants also recommended the issues related to provision for vertical mobility of TVET graduates, career pathway for TVET graduates, utilization of ICT and other technologies in TVET system, uniform system of certification and accreditation in the country, flexibility of admission policy, support from the government, continuous upgrading and geared towards market demand curriculum, continuous training for TVET teachers to cope with changing technologies. There was wide agreement on the urgent need to disseminate success stories of TVET entrepreneurs that attracts students to TVET sectors.

Theme 3: *Enhancing and Supporting TVET for SD 1 and SD 2*

Paper presenters:

- Michael Haertel, BIBB, Germany
- Abdullah Ambusaidi, Sultan Qaboos University, Oman
- Kyaw Soe Win, Ministry of Labour, Myanmar
- Mian Siahaan and Arie Wibowo Khurniawan, Indonesia
- Bui The Dung, CSD, Vietnam
- Frank Bunning, University "Otto von Guericke" Magdeburg, Germany
- Thor Henning Gulbrandsen, IFE/NEPAS, Norway
- Beth Mclachlan, Kangan Batman TAFE, Australia,
- Ligaya Valmonte, CPSC, Philippines
- Man-Gon Park, Myong Hee Kim, CPSC, Philippines
- Boris Kotsik, UNESCO IITE, Russia
- Myong Hee Kim, CPSC, Philippines
- Alberto Arenas, College of Education, University of Arizona, USA
- Zhao Jiping and Liu Yu, Chongqing Industry Polytechnic College, China
- Lourdes R. Quisumbing and Maria Lourdes Q. Baybay, Miriam College, Philippines

Each discussion group focused on issues relating to good practices in enhancing and supporting TVET for SD. The participants outlined some of the experiences of the countries that have, over recent years, commenced a process of defining TVET for SD. Intensive discussion was based on the presented case of TT-Network Vietnam and was highlighted as a “success story”. Following question/answer dialogues were special focussed on backgrounds and reasons for that – Mr. Bui The Dung was asked to add / extend in the review of his paper some by him in the discussion mentioned arguments, as regarding the process of (participative) elaboration of the project design together with donor/ InWEnt in strong orientation of national ownership from beginning of the project.

One of the groups discussed the importance of energy management based on the Thor Henning Gulbrandsen’s paper. Participants pointed out the flexibility of the programmes, particularly for TVET teachers/trainers and on-the-job training in energy management.

In the light of education structures, it was suggested that the three models in Frank Bunning’s paper could include more details about TVET. It was also discussed that if the models were to be internationalized, they should be flexible and applicable to make changes for the other countries. Participants in the group identified that there is a need for the models to further evaluation.

The paper of Beth Mclachlan highlighted the importance of establishing partnerships between the public sector and institutions of higher education that assist the institution in promoting the goals of sustainable development. Participants suggested that it is useful to flesh out best case studies that do a break down of the financial investment of a program versus the short-term and long-term costs. In addition, it should be noted that many of these projects do have a pay back of several years down the road, so that the savings in the long run should be added as an important benefit during the initial investment analysis.

The group discussed the importance of clear distinction between sustainable education and environmental education, and also between ecological education and environmental education. There’s too much confusion around these terms, and at least clarifying in the paper what is meant, helps in explaining one’s position. As part of covenants that are established, it’s important to come up with a set of performance indicators and benchmarking data to assist in the evaluation of the program.

With regard to the paper of Dr. Ligaya Valmonte, participants reviewed that the APACC model can be integrated into the paper to highlight the importance of regional accreditation. Further recommendations focused on the pros and cons of regional accreditation for the guidance and readiness of the TVET institutions. The participants also discussed the effective role of the government, APACC efforts of harmonization and standardization of regional standards, developmental approaches to sustainable development and related issues (legislation and policy, curriculum development, pedagogy, the management and maintenance of facilities).

The Alberto Arenas’s paper was viewed as one of a portfolio of evaluative tools where other methods have failed particular with marginalised communities. The participants analyzed different basic views on promoting quality in workforce and workplace mobility with computer supported cooperative works. Zhao Jiping and Liu Yu provided information on a pilot case-study undertaken of migrants in the Three Gorges Reservoir Area of Chongqing in China which found, to some extent, social problems that

encountered in the project were of different economic and cultural conditions of population. The paper was recommended to highlight curricula innovation and establishing cooperation between different vocational institutions. The participants analysed the applicability of such project experience in the current context for further TVET reforms in China.

Another discussion group evaluated a presentation for the role of information and communication technologies in TVET for sustainable development presented by Boris Kotsik. Participants in the group identified that broader usage of UNESCO IITE experience to be introduced in diverse global region.

Closure of the Meeting

The closing session of the Meeting involved contributions from Dr Andrew Scown and three delegates who shares their three day experience. They discussed the great opportunity to consider how sustainable development themes can be integrated into TVET programs. They also thanked the UNESCO-UNEVOC, CPSC and RMIT staff for the opportunity to attend the conference.

Speaking on behalf of all the co-sponsors, Dr Park thanked UNEVOC and RMIT for organising the conference. He commented about the deep insights about TVET revealed through both the Conference sessions and organised social events. Dr Park offered gifts to the organising committee and conference sponsors.

Professor John Fien and Dr Maclean concluded the session by presenting gifts to the conference organisers and support staff. Dr Maclean made the final comments to the conference and indicated that all conference papers would be published in the conference report and a book of key papers published in 2007.

MODERATOR'S SUMMATION

TVET for sustainable development - opportunities and challenges

RMIT International University Vietnam, Ho Chi Minh City, Vietnam, 2-5 July 2006

Moderator: Tom Karmel

I have been asked to provide a synthesis of our three-day meeting. This is a very tall order and I could not hope to do justice to the 28 papers presented.

Instead, I will make a few comments that I hope are provocative enough to keep you awake until the closing ceremony.

We are now at the beginning of the United Nations decade of education for sustainable development, and the purpose of this meeting was to take stock of how TVET can contribute to sustainable development:

- To learn from each other and to consider opportunities and challenges.

There is no doubting the importance of sustainable development. The worldwide concerns about global warming and climate change are well known. Local concerns are obvious, as can be seen from the front page of Vietnam News, Monday, July 3

In its socio-economic strategy for the 10 years from 2001-10 Vietnam wants to achieve a society boasting sustainable development based on the three columns of economics, environment and society

And further on

In 1993, the National Association passed the law on environmental protection.....

...However, because of poor enforcement, the law had somehow failed to respond to the demands of socio-economic development

and

The country's socio-economic development mainly relies on the exploitation of its natural resources, while production technology is obsolete, consuming a lot of energy and raw materials and generating a lot of waste.

Rapid population growth and a high proportion of poor households have become the main reasons for serious environmental degradation and pollution.

So the right objectives are fine, but achieving them is a real challenge.

Another headline on the same page of news brings home another fact that sustainable development is not at the top of everyone's priorities.

Conflict, poverty, disease to African Union agenda.

This is just some background. In my synthesis I wish to emphasise four points;

1. The whole concept of sustainable development is very slippery
2. For effective action we need to go beyond moral fervour; at the end of the day there has to be a business case for specific actions. Further, there needs to be realism about what TVET can achieve.
3. For many countries, the challenge at the moment is to have effective education systems, and this would be true quite independent of the concept of sustainable development.
4. There is no doubt that there are many opportunities and challenges. However, relatively few case studies were presented that really go to the nub of TVET and sustainable development.

It is appropriate at this stage to confess my background. I am an economist by training and hence

- Tend to approach issues from the perspective of the allocation of scarce resources.
- Tend to think about market approaches to solving problems, i.e. provide the signal and incentives for people to respond appropriately.

However, being an economist does not mean that I think GDP growth is the only indicator of progress.

I won't spend any time on history. This is comprehensively covered by the UNEVOC International Centre's excellent discussion paper *Orienting TVET for sustainable development*.

Turning to my first point about the slipperiness of the concept of sustainable development. There seem to be so many approaches.

For the first approach I quote from the discussion paper.

Sustainable development is not a fixed concept; rather it is a culturally directed search for a dynamic balance between social, economic and natural systems that seeks to promote equity between the present and the future, and equity between countries, races, social classes and genders.

Further, it is *more a moral precept than a scientific concept*.

The International Implementation Scheme for the UN decade of education for sustainable development identifies 3 perspectives with 15 subcomponents.

Socio-cultural perspectives

- Human rights
- Peace and human security
- Gender equality
- Cultural diversity and inter cultural understanding
- Health
- HIV/AIDS
- Governance

Environmental perspectives

- Natural resources
- Climate change
- Rural transformation
- Sustainable urbanisation
- Disaster prevention and migration

Economic perspectives

- Poverty reduction
- Corporate responsibility and accountability
- Market economy.

John Fien and his colleagues provided a harder edged, more environmentally focused, discussion. Quoting the World Commission on Environment and Development, 1987

Sustainable development is the ability to make development sustainable-to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs....

This definition sounds quite strong, but is difficult to use in practice because of the role of technology. That is, future generations will have available to them superior technology to what is currently available.

John also provides an even tougher version, from Karl Henrik Robert.

- *Materials from the earth's crust must not systematically increase in the biosphere*
- *Substances produced by humans must not systematically increase in nature*
- *The physical basis for productivity and the diversity of nature must not be systematically diminished*
- *We must be fair and efficient in meeting basic human needs.*

It is difficult to see how these principles could be used as a basis for developing TVET for sustainable development. They would seem to prohibit any sort of exploitation of the earth's natural resources, and this does not seem to be consistent with the idea of development.

Stephen McKenzie approaches the issues from the perspective of the triple bottom line of society, economy and environment. He notes that the social aspect is particularly underdeveloped. The issue of cultural sustainability has also been put forward during our meeting.

My point is that we have a bewildering array of themes, but there is no clear, simple base to work from. Certainly, the various approaches have a general common link of minimisation of environmental and social impact, but this does not really help in a practical sense. The world is one of trade-offs, not minimisations.

For example, to minimize the amount of waste from our lunch the solution is easy: no lunch. But if you want people to have some lunch, and if you wish to provide choice, then there is a trade off to be made.

My second observation: for effective action we need to go beyond moral fervour.

This is a more personal view.

A number of papers argue for actions that I think would be difficult to sell to those responsible for TVET systems. For examples, John Fien and his colleagues espouse two principles for TVET:

First, TVET must promote an understanding of our ecological predicament

Second, integrated sustainable development demands that learners be tuned to the functioning of the whole global system and to the connection between the parts.

Shirley Ali Khan talked about inner disciplinarily and the need for everyone to take personal responsibility and a crisis of meaning. Lourdes Quisumbing talked about the importance of values and ethics in TVET, and referred to the book Learning to Do.

All of these papers are particularly well argued and raise fundamental philosophical issues. However, when I think about the basic aim of TVET- to provide skills for employment- I suspect it will be very difficult to convince policy makers and curricula designers to embrace these concepts. The language sounds more suitable for university or a general education rather than a certificate II in retail or business.

Is there a case for more modest aims that focus on things such as:

- Environmental regulation
- Reduction in waste
- Energy usage
- Knowledge of emerging technologies?

My third comment relates to quite a few of the papers. We were provided with a range of interesting papers on TVET systems and relevant issues. Countries covered included Myanmar, Indonesia, India, Oman, Vietnam, China, and PNG. Many issues are the same- matching education with employment needs- while some issues are country specific, for example the case in Oman where Omanis are being trained to replace overseas labour.

Similarly, papers addressed specific issues such as accreditation, ICT, gender segmentation, intercultural development, entrepreneurship, modular curricula, teacher training, learner centred teaching, welfare reform, organisational change and values education.

However, it seems to me that these topics address important issues but are more to do with a well functioning TVET system and the labour market rather than sustainable development as such.

If we define TVET and sustainable development so broadly as to encompass all these aspects then I think we are running a real risk. The risk is that we have a phrase that means all things to all people. If this happens then I suspect we will get to the end of the decade for sustainable development and nothing would have changed in respect of a harder edged version of what we mean by sustainable development.

My fourth comment: there is no doubt that there are many opportunities and challenges. The main point is a plea for more concrete approaches, examples and case studies. For me, we need more work along the lines of two studies presented:

- Sustainable covenants, the case study of a government college partnership from Kangan Batman TAFE
- Policy making strategies and project experiences in Germany from BIBB.

Two case studies are not really enough.

Finally, I would like to explore the metaphor that has been given some prominence:

Education is the key to sustainable development
and
TVET is the master key.

Now keys are required to unlock doors, but the whole purpose of a door is to secure a room. A key by itself is of little use. So if we think of education being a key, think of the doors and locks as being the other elements required for sustainable development. In particular, appropriate regulation and market mechanisms are required as well as scientific knowledge. If we don't get these right, education will be of little use. In addition, I am not sure of TVET being the master key. I have no doubt of its importance for vocational occupations but perhaps primary and secondary education is more important for the understanding of the concept of sustainability.

I hope these comments are useful. To finish I would say that while this meeting has been a great start, we have a long journey over the next decade. I trust the destination will be worth getting to.

ANNEX 1

LIST OF PARTICIPANTS (by Country / by Sponsor and Conference Secretariat)

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ANNEX 2
PROGRAMME

SUNDAY 2. JULY:

18.30 Evening Welcome Reception at Hotel hosted by UNESCO-UNEVOC

MONDAY 3. JULY:

08.30 Depart from Hotel for RMIT International University

09.00 **Welcome and Opening Address**

- Michael Mann, President RMIT International University
- Representative of Vietnam (tbc)
- Man-Gon Park, Director-General and CEO, Colombo Plan Staff College for Technician Education (CPSC)
- Jang-Ho Kim, Director, Korean Research Institute for Vocational Education and Training (KRIVET)
- Kim Tran, Norwegian Institute for Water Research
- Harry Stolte, InWEnt
- Tom Karmel, Director, National Centre for Vocational Education Research (NCVER)

Opening Address:

- Rupert Maclean, Director, UNESCO-UNEVOC

10.30 Morning Tea

11.00 **Session 1 *New Thinking on Development***

Chair: TBA

- The World Situation and Implications for TVET - Man-Gon Park
- Unpacking Sustainable Development - John Fien and David Wilson
- Consideration of Sustainable Development in Modular Curriculum Approach – Harry Stolte
- Response: Professor Annette Gough

12.30 Lunch

13.30 **Session 2 *The TVET Response 1***

Chair: TBA

- Promoting Entrepreneurship in Curriculum of TVET sector for Sustainable Development - Suresh K. Dhameja
- Sustainable Development through the Provision of Knowledge-Based Skilled Workers - Hazrat Hussain
- Developing Entrepreneurship for Rural Youth and Women – Tariq Mahmood
- VET and Ecologism: Charting the Terrain - Damon Anderson

15.00 Afternoon Tea

15.30 **Session 3 Small Group Discussions with Paper Presenters**

16.30 **Session 4 Plenary: Group Reports**

17.30 Depart for Hotel

19.0 Conference Dinner

TUESDAY 4. JULY

08.30 Depart from Hotel for RMIT International University

09.00 **Session 5 *The TVET Response 2***

Chair: TBA

- Social Sustainability through TVET – Stephen Mckenzie
- Gender Equity through TVET - Young-Hyun Lee
- Intercultural Education for Promoting Sustainable Development in Technical and Vocational Education and Training (TVET) – Johanna Lasonen
- Training for Cross-Cultural Communication – RMIT Vietnam

10.30 Morning Tea

11.00 **Session 6 Enhancing and Supporting TVET for SD 1**

Chair: TBA

- Germany: A Case Study of National Policy Support – Michael Haertel
- Integrating Sustainable Development into TVET in Oman – Abdullah Ambusaidi
- Korea: From Welfare to Learnfare: The New Government Initiatives for Sustainable Development, the Korean Experience - Jang-Ho Kim
- Case Study Korea: Changes in Humane Resource Development – NN Korea

12.30 Lunch

13.30 **Session 7 Enhancing and Supporting TVET for SD 2**

- Case study Vietnam: Train-the-Trainer-Network for Facilitating Regional and National Sustainable Development - Bui The Dun
- Actual Demands and Developments In TVET Sector in China to Sustain Social, Economic and Ecological Development – China NN
- The Modular In-Plant Training Approach: Consolidation of Economic Development and Social Welfare – Indonesia NN
- New Developments in TVET-Teacher Training in Europe with Background of Sustainable Development - Frank Bünning

15.00 Afternoon Tea

15.30 **Session 8: Small Group Discussions with Paper Presenters**

16.30 **Session 9: Plenary: Group Reports**

17.30 Depart for Hotel and Free Evening

WEDNESDAY 5. JULY:

8.30 Depart from Hotel for RMIT International University

09.00 **Session 10 Enhancing and Supporting TVET for SD 3**

Chair: TBA

- Accreditation and Certification System in Asia and the Pacific Region - Ligaya Valmonte
- Prospects and Perspectives of Ubiquitous Teaching and Learning Systems - Myong Hee Kim
- Workforce and Workplace with Computer-Supported Cooperative Works - Man-Gon Park, Myong Hee Kim and Ligaya Valmonte
- The Role of Information and Communication Technologies in TVET for Sustainable Development - Boris Kotsik

10.30 Morning Tea

11.00 **Session 11 Enhancing and Supporting TVET for SD 4**

Chair: TBA

- School Enterprise Development and Vocational Education: School-Based Enterprises and Environmental Sustainability – Alberto Arenas
- Business in the Community: Business and Entrepreneurship Education for the 21st Century – Jaimie Cloud

- Addressing Migrants' Problems in Learning: Vocational Skills in the Three Gorges Reservoir Area of China - Zhao Jiping, Liu Yu and Veronica Volkoff
 - Learning To Do: An ESD Support Resource for TVET - Lourdes R. Quisumbing and Maria Lourdes Q. Baybay
- 12.30 Lunch
- 13.30 **Session 12:** Small Group Discussions with Paper Presenters
- 14.00 **Session 13 Plenary: Group Reports**
- 15.00 Afternoon Tea
- 15.30 **Session 14 Plenary: Closing Session**
- Technology Education and the Search for Truth, Beauty and Love – William Pretzer
 - TVET and Sustainable Development: Synthesis - Tom Karmel and Phil Loveder
- 17.00 Conclusion
- 17.30 Farewell Reception hosted by RMIT
- 19.00 Bus to Hotel